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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,912	01/20/2005	Marian Faur	US21.1045	1695

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EXAMINER	
KIRKLAND III, FREDDIE	
ART UNIT	**PAPER NUMBER**
2855	

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/521,912	FAUR ET AL.	
	Examiner	Art Unit	
	Freddie Kirkland III	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *1-19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

FINAL REJECTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 23, 27-28, 32-33, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsuge et al. US Patent Application Publication 2001/0002791.

With respect to claim 20, Tsuge teaches a device (2, see figures 1-2) for measuring the speed and direction of rotation of an object, near to which it is placed, said device comprising: a magnetic detection device (3 and 4) that delivers, in response to a rotation of the object (1) generating a magnetic field variation, signals representative of its speed and its direction of rotation, a conductor (13a and 13b) intended to be connected to a power source (14) to supply current to the magnetic detection device at least, current receptor (12) means placed between the magnetic detection device and the conductor that create, from signals coming from the magnetic detection device, a modulation of the current flowing in the conductor, wherein, the frequency of the modulated current (Is) or the number of transitions that is has reflects the speed of the object (figures 7A-7H); and the form of said modulated current reflects the direction of rotation of said object (figures 7A-7H).

With respect to claim 23, Tsuge teaches wherein the magnetic detection device (3 and 4) is a linear sensor delivering two pairs of signals out of phase with each other, said signals being relative to the angular position of the object (paragraphs 75-88).

Wit respect to claim 27, Tsuge teaches wherein the magnetic detection device (3 and 4) is a digital sensor delivering a signal representative of the speed and a signal representative of the direction of rotation of the object (the sensors output rectangular detected signals, these signals are digital because they are either a "0" or a "1", therefore the sensors are digital, paragraphs 74-78).

With respect to claim 28, Tsuge teaches wherein the modulated current has a cyclic ratio greater than a predetermined threshold when the object turns in one direction and a cyclic ratio less than the predetermined threshold when the object turns in the other direction (see figures 7A-7I).

With respect to claims 32-33, Tsuge teaches wherein the modulated current has a cyclic ratio greater than a predetermined threshold when the object turns in one direction and a cyclic ratio less than the predetermined threshold when the object turns in the other direction (see figures 7A-7I), and wherein the device comprises, means of mixing (8), the input of which is connected to the magnetic detection device and the output of which delivers a unique signal reflecting the speed and direction of rotation of the object, said unique signal controlling the current receptor means (figure 1).

With respect to claim 36, Tsuge teaches wherein the magnetic detection device (3 and 4) is connected to another conductor (13a and 13b) for its power supply, said other conductor coming into electrical contact with the enclosure (figures 1 and 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 21 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuge et al. US Patent Application Publication 2001/0002791 in view of Ott et al. US Patent 6,282,954.

With respect to claim 21, Tsuge fails to teach wherein the current receptor means comprise at least one series assembly formed of a resistor and a commutation element.

Ott teaches a system for detecting rotation of an object comprising series resistances (R1 and R2) and communication elements (1402 and 1403, see figure 14, col. 15 lines 1-61).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the assembly from the Ott teaching in the invention of Tsuge in order to detect the rotation condition of an object as quickly as possible (col. 16 lines 17-22).

With respect to claim 29, Tsuge teaches a device for measuring the rotation of an object (1) wherein the modulated current has a cyclic ratio greater than a predetermined threshold when the object turns in one direction and a cyclic ratio less than the

predetermined threshold when the object turns in the other direction (see figures 7A-7I), means of encoding (5) the direction of rotation of the object (1), means of mixing (8), and the output of the means of mixing (8) delivering a unique signal reflecting the speed and direction of rotation of the object, said unique signal controlling the current receptor means (12, see figures 1-2 and 7A-7I, paragraphs 74-78).

Tsuge fails to teach wherein the device comprises two comparators that receive inputs from the magnetic measuring means and output a signal to the means of encoding.

Ott teaches using comparators 5031 and 5101 for comparing measured values to thresholds and output a signal based on the comparison (col. 10 lines 5-64).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the comparators from the Ott invention in the invention of Tsuge in order minimize the amount of noise that is output from the sensors.

With respect to claim 30, Tsuge teaches wherein the means of mixing (8) is formed by a circuit based on logic gates (it is implied that logic gates are used by the signal selection means, see figures 4-6 and paragraphs 93-100).

With respect to claim 31, Tsuge teaches wherein the means of encoding (5) the direction of rotation comprises a switchover D (see figure 1).

Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuge et al. US Patent Application Publication 2001/0002791 in view of Shinjo et al. US Patent 6,630,821.

With respect to claims 22 and 24, Tsuge fails to teach wherein the modulated current has a first asymmetric form when the object turns in one direction and the same form but seen in a mirror when the object turns in the other direction.

Shinjo teaches detection device wherein the output waveform has a first form when the detected object rotates in one direction and the same form but seen in a mirror when the object turns in the reverse direction (figure 6).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to the waveform output method from the Shinjo teaching in the invention of Tsuge in order easily detect which direction the object is rotating.

Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuge et al. US Patent Application Publication 2001/0002791 in view of Ott et al. US Patent 6,282,954 and further in view of Kessler US Patent 6,859,000.

With respect to claims 25 and 26, Tsuge fails to teach a device for measuring the speed and direction of an object where in the device comprises two comparators and the output of each comparator being connected to the conductor via a resistor.

Ott teaches using comparators 5031 and 5101 for comparing measured values to thresholds and output a signal based on the comparison (col. 10 lines 5-64).

Kessler teaches using a pull up resistor connecting the output of a comparator to power (figure 4).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the comparators from the Ott invention in the invention of Tsuge in order to better process the measured signals from the sensors by

comparing the measured signals to thresholds and use the pull up resistors from the Kessler invention in order to receive better output signals from the comparators by pulling them closer to Vcc.

Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuge et al. US Patent Application Publication 2001/0002791 in view of Gauthier et al. US Patent Application Publication 2002/0149275.

With respect to claims 34 and 35, Tsuge fails to teach wherein the magnetic detection device, the conductor and the current receptor means at least are encapsulated in an enclosure made out of non-magnetic material, the conductor being accessible from the exterior of said enclosure.

Gauthier teaches an electric machine wherein the machine is placed in a steel enclosure 110 (paragraph 36).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a steel non-magnetic enclosure as taught by Gauthier in the invention of Tsuge in order to prevent magnetic interference between the magnetic sensors and the enclosure.

Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuge et al. US Patent Application Publication 2001/0002791 in view of Daigle US Patent 5,715,162.

With respect to claims 37 and 38, Tsuge fails to teach wherein the system comprises a measuring device and an object in the form of a non-magnetic propeller

integral with at least one magnet also wherein the propeller and the measuring device are in the same line as each other, along the axis of the propeller.

Daigle teaches a propeller and a magnet (132) used to detect the blades of the propeller during rotation (see figure 1, col. 4 lines 64-67 through col. 5 lines 1-21).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the propeller from the Daigle teaching for the rotational object in the invention of Tsuge in order to measure the rotation of a different object.

Response to Arguments

Applicant's arguments filed 7/13/2006 have been fully considered but they are not persuasive.

The applicant argues that Tsuge fails to teach to use the frequency of the modulated current (Is from the Tsuge teaching) or the number of transitions of said modulated current in order to determine the speed of the rotating sensor. Tsuge teaches (at least in paragraph 2) a rotating sensor that at detects rotational speed and direction based on the result of detecting with timing corresponding to the detected rotational speed. Since frequency is the inverse of time and the transitions of the modulated current (which the examiner is calling Is from the Tsuge teaching) can be considered to be timing, Tsuge teaches the claimed limitation.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freddie Kirkland III whose telephone number is 571-272-2232. The examiner can normally be reached on Monday through Friday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FKIII

8/24/2006

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